WHAT IS CLAIMED IS:

1. A translator comprising:

a receiver which receives a first internet protocol (IP) packet in accordance with a first internet protocol and a second IP packet used in accordance with a second internet protocol from a network;

an IP packet translator responsive to reception of the second IP packet by said receiver, for generating a first IP packet containing data included in the second IP packet, and responsive to reception of the first IP packet by said receiver, for generating a second IP packet containing data included in the first IP packet;

a transmitter which for transmits each of the first IP packet and the second IP packet generated by said IP packet translator to said network;

a storage which stores a plurality of addresses assigned to respective devices of interest using the first internet protocol; and

address translator which sets any of a plurality of first IP addresses stored in said storage in a source storing field of said first IP packet when generating said first IP packet from the received second IP packet.

2. A translator for coupling a first IP network in which a plurality of devices of interest are assigned first IP addresses such that the same first IP address is not assigned to two or more devices of interest, and a second IP network in which a plurality of devices of interest are

assigned second IP addresses such that the same second IP address is not assigned to two or more devices of interest, said translator comprising:

a header translator which translates a header between a first IP packet used in said first IP network and a second IP packet used in said second IP network in order to exchange information between said first IP network and said second IP network; and

a storage which stores a plurality of first IP addresses different from each other;

wherein, for a header translation performed to send information from said second IP network to said first IP network, any of the plurality of first IP addresses stored in said storage is assigned to a second IP address stored in a source storing field included in an IP header of said second IP packet, and the assigned first IP address is stored in a source storing field included in an IP header of said first IP packet; and

for a header translation performed to send information from said first IP network to said second IP network, said second IP address stored in the source storing field included in the IP header of said second IP packet is assigned to a first IP address stored in a destination storing field included in the IP header of said first IP packet, and the assigned second IP address is stored in a destination storing field included in the IP header of said second IP packet.

3. A network system comprising:

a translator comprising:

receiving means for receiving each of a first IP packet used in accordance with a first internet protocol and a second IP packet used in accordance with a second internet protocol from a network;

packet translating means responsive to receiving of the second IP packet by said receiving means, for generating a first IP packet containing data included in said second IP packet, and responsive to receiving of the first IP packet by said receiving means, for generating a second IP packet containing data included in said first IP packet; and

transmitting means for transmitting each of the first IP packet and the second IP packet generated by said IP packet translating means to said networks; and

a host using said first packet passing through said network,

wherein said host comprises:

storage means for storing a plurality of first IP addresses assigned to respective devices of interest using the first IP packet;

address translating means operative when the first packet including data to be transmitted to a destination host using the second IP packet is sent to said network for assigning any of the plurality of first IP addresses stored in said storage means to a second address assigned to said destination host within second IP

addresses assigned to respective devices of interest using the second IP packet and for storing the assigned first address in a destination storing field of the first IP packet; and

means for sending address translation information including at least said second IP address assigned to said destination host and said first IP address assigned to said second IP address, and

said translator comprises:

storage means for storing the address translation information sent from said host; and

address translating means operative when said packet translating means generates said second IP packet based on said first IP packet sent from said host for storing the second IP address included in said address translation information stored in said storage means in a destination storing field of said second IP packet.

4. A network system according to claim 3,

comprising a plurality of the hosts, and

each of said plurality of hosts including means for mutually exchanging the address translation information stored therein and the address translation information stored in other hosts such that the contents of the address translation information are identical over said hosts.

5. A network system comprising:

a translator for mutually coupling a first IP network in which a plurality of devices of interest are assigned first IP addresses such that the same first IP

address is not assigned to two or more devices of interest, and a second IP network in which a plurality of devices of interest are assigned second IP addresses such that the same second IP address is not assigned to two or more devices of interest; and

a first device of interest which is one of the plurality of devices of interest existing in said first IP network,

said first device of interest comprising:

storage means for storing a plurality of first IP addresses different from each other;

address translating means operative when a first IP packet including data to be transmitted to a second device of interest to said first network, said second device of interest being one of a plurality of devices of interest existing in said second IP network, for assigning any of the plurality of first IP addresses stored in said storage means to a second IP address assigned to said second device of interest, and for storing the assigned first IP address to a destination storing field included in an IP header of said first IP packet; and

means for sending address translation information including at least said second IP address assigned to said second device of interest and said first IP address assigned to said second IP address, and

said translator comprising:

storage means for storing the address translation information sent from said first device of interest; and

packet translating means for translating a packet between said first IP network and said second IP network using said address translation information.

6. A method of coupling IP networks for mutually coupling through a translator a first IP network wherein a plurality of devices of interest are assigned first IP addresses such that the same first IP address is not assigned to two or more devices of interest, and a second IP network wherein a plurality of devices of interest are assigned second IP addresses such that the same second IP address is not assigned to two or more devices of interest, said method comprising the steps of:

when initiating a communication between a first device of interest which is one of a plurality of devices of interest existing in said first IP network and a second device of interest which is one of a plurality of devices of interest existing in said second IP network, assigning any of a plurality of previously prepared first IP addresses to a second IP address assigned to said second device of interest;

communicating between said second device of interest and said translator using said second IP address assigned to said second device of interest, and communicating between said translator and said first device of interest using said assigned first IP address; and

releasing said assigned first IP address after termination of the communication.

7. A computer-readable recording medium storing a program for performing an internet protocol (IP) networking translation, said program for translation comprising:

program code means for receiving a first internet protocol packet in accordance with a first internet protocol and a second IP packet used in accordance with a second internet protocol from a network;

program code means for, in response to reception of the second IP packet by execution of said receiving code means, generating a first IP packet containing data included in the second IP packet, and in response to reception of the first IP packet by execution of said receiving code means, generating a second IP packet containing data included in the first IP packet;

program code means for transmitting each of the first IP packet and the second IP packet generated to said network;

program code means for storing a plurality of addresses assigned to respective devices of interest using the first internet protocol; and

program code means for setting any of a plurality of first IP addresses stored by executing of storing program code in a source storing field of said first IP packet when generating said first IP packet from the received second IP packet.

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